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Attorneys for Plaintiff  
VILMA SERRALTA

**UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA**

VILMA SERRALTA,

Plaintiff,

v.

SAKHAWAT KHAN; ROOMY KHAN; and  
DOES ONE through TEN, inclusive,

Defendants.

) No. C 08-01427 CW (MEJ)

)  
) **DECLARATION OF DAVID S. MOORE**  
) **IN SUPPORT OF PLAINTIFF'S MOTION**  
) **FOR ENTRY OF DEFAULT JUDGMENT**  
) **AND MOTION FOR AN ORDER**  
) **SHORTENING TIME**

) **Date:** [to be determined]

) **Time:** [to be determined]

) **Ctrm:** Courtroom B, 15th Floor

) [Hon. Maria-Elena James]

1 I, DAVID S. MOORE, declare:

2 1. I have personal knowledge of the matters set forth herein and, if called upon to testify,  
3 could and would competently testify thereto.

4 2. I am a forensic document examiner, with my offices located in Fair Oaks, California. I  
5 have more than thirty years of document and investigative experience, including assignments with the  
6 Crime Laboratories of the United States Army, the United States Postal Inspection Service, the Las  
7 Vegas Metropolitan Police, and the California Department of Justice. I have received extensive  
8 training regarding handwriting identification, ink and document analysis and examination, reflected in  
9 courses from the United States Army, the United States Secret Service, the Federal Bureau of  
10 Investigation, the American Academy of Forensic Sciences, and the California Criminalistics Institute.  
11 I have been certified as a "Diplomate" of the American Board of Forensic Document Examiners since  
12 1978. From 1999 to 2002, I served as one of the Directors on that Board.

13 3. I have published numerous articles in the field of forensic document examination in the  
14 Journal of Forensic Sciences, including the "Evaluation of a Method to Detect the Site of Rubber  
15 Erasures by Powder," October 1981; "The Importance of Shading Habits in Handwriting  
16 Identification: A Case Study," January 1983; "The Electrostatic Detection Apparatus (ESDA) and Its  
17 Effects on Latent Prints on Paper," March 1988. In addition, I have presented numerous papers at  
18 meetings and conferences of the American Academy of Forensic Sciences, the International  
19 Association of Identification, the Southwestern Association of Forensic Document Examiners, and the  
20 Southeastern Association of Forensic Scientists.

21 4. I have presented numerous classes on questioned document subjects to federal, state,  
22 and local law enforcement officials, both government and private attorneys, as well as to bank and  
23 insurance personnel.

24 5. I have testified as an expert in the field of questioned documents in justice, municipal,  
25 superior, federal and military courts and administrative hearings in excess of 650 times in more than 20  
26 states throughout the United States, including California.

27 6. I have been retained as a testifying expert by the counsel for Plaintiff Vilma Serralta in  
28 the matter Serralta v. Khan, Case No. C 08-01427 CW. At the request of Plaintiff's counsel, I

1 conducted forensic examinations of the photocopied documents identified as "Khan 000308" and the  
2 canceled checks paid to Plaintiff, for the purposes of determining whether Plaintiff wrote the signature  
3 depicted on "Khan 000308."

4 7. After my initial examination of the photocopied documents I received on March 27,  
5 2009 from Christina Chung, one of the attorneys for Plaintiff, I created a report entitled "Report  
6 pertaining to Serralta v. Khan (DM-09/124)," dated April 15, 2009, a true and correct copy of which  
7 is appended herein at Exhibit 1.

8 8. In my initial report, I expressed the opinion that Plaintiff very probably did not sign the  
9 original of "Khan 000308," noting that the term "very probably did not" is defined within the  
10 American Society of Standards and Materials ("ASTM") International Standard E 1658 as denoting  
11 that the examiner is virtually certain of that conclusion.

12 9. However, the poor, multi-generational quality of the documents obscured details that I  
13 could use to confirm my analysis. Accordingly, I noted that a better quality copy of "Khan 000308,"  
14 or the original, would aid me in coming to more definitive conclusions.

15 10. I received the original canceled checks and a better quality copy of the document  
16 originally marked "Khan 000308" from Jonathan D. Hicks, attorney for Defendants, on April 30,  
17 2009. After my examination of these documents, I created a report entitled "1st Supplemental Report  
18 pertaining to Serralta v. Khan (DM-09/124)," dated May 22, 2009, a true and correct copy of which is  
19 appended herein at Exhibit 2.

20 11. After my examination of the abovementioned documents, it is my opinion that Plaintiff  
21 did not sign the original of "Khan 000308." I use the term "did not" as defined within the ASTM  
22 International Standard E 1658, to denote the highest degree of confidence expressed by the document  
23 examiner in handwriting comparisons.

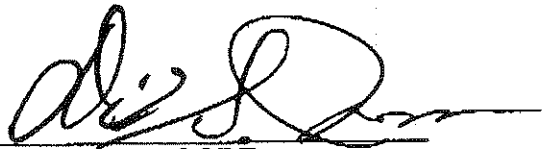
24 12. It is my opinion that the "Vilma Miz Serralta" signature depicted on "Khan 000308" is  
25 the product of a "cut and paste" operation in which the genuine signature of Plaintiff that was written  
26 as the endorsement on the cancelled check number 212 was "cut" from a copy of the back of the check  
27 and, after some size manipulation, was "pasted" onto what became "Khan 000308."

28 13. It is also my opinion that "Khan 000308" was created sometime after January 21, 2005.

1           14.     In addition, based upon my examination of the original canceled checks bearing  
2 Plaintiff's signature, it is my opinion that at some point between the date that check 212 was  
3 photocopied for production to Plaintiff's attorneys in February 2009, and April 30, 2009, when I  
4 received the check from Mr. Hicks, the genuine Serralta endorsement signature was consciously  
5 altered in an attempt to obscure the fact that it was the source of the "cut and paste" signature  
6 depicted on "Khan 000308."

7           15.     Similarly, it is my opinion that the genuine Serralta endorsement signature on check  
8 number 4204 was also consciously altered during the same time period.

9           I declare, under penalty of perjury under the laws of California and the United States, that the  
10 foregoing is true and correct. Executed in Fair Oaks, California on the 27th day of July, 2009.

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13 DAVID S. MOORE  
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**Exhibit 1**

David Moore report, April 15, 2009,  
Including Exhibit A

DAVID S. MOORE  
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American Society of  
Questioned Document  
Examiners

April 15, 2009

DIPLOMATE - American  
Board of Forensic  
Document Examiners (1978)

Southwestern Association  
of Forensic Document  
Examiners

American Academy of  
Forensic Sciences

Southern Association  
of Forensic Scientists

Ms. Christina Chung, Esq.  
Legal Aid Society Employment Law Center  
600 Harrison Street, Suite 120  
San Francisco, CA 94107

SUBJECT: Report pertaining to Serralta v. Khan (DM-09/124)

MATERIAL EXAMINED

EXHIBIT  
NUMBER


DESCRIPTION OF EXHIBITS

(The following exhibits were received from Attorney Christina Chung on March 27, 2009 via Federal Express Airbill #866260402868.)

- Q1c\* One-page machine printed document entitled "To Whom It may Concern", depicting "Harleen Chopra" signature, dated 8-19-02, and an undated questioned "Vilma Miz Serralta" signature. (Bates No. Khan 000308)
- K1(1c-38c) Various documents depicting the known signatures of Vilma Miz Serralta, consisting of:
- (1c-35c\*\*) Copies of face and back of numerous checks depicting endorsement signatures on the backs of checks contained within the following Bates Nos.: KHAN000260 through KHAN000353.

\* c = copy

\*\* (Note: Included within these documents are redacted copies of the face [at the bottom] and back [at the top] of Digital Age Management LLC check no. 212 issued to Vilma Miz Serralta on 1-14-05, of Bate Nos. KHAN000336 and KHAN000337, respectively. Unredacted copies of the face and back of check no. 212 were also submitted for examination.)



(36c) Copy of face of Digital Age Management, LLC check no. 1055, dated 7-30-04. (Bates No. KHAN000331) (Signature on Pay to the Order of line only.)

(37c) Copy of face of check no. 3328, written on the personal account of Sakhawat M. and Roomy Khan, dated 3-27-04. (Bates No. KHAN000278) (Signature on Pay to the Order of line only.)

(38c) Copy of face of check no. 3602, written on the personal account of Sakhawat M. and Roomy Khan, dated 12-6-04. (Bates No. KHAN000291) (Signature on Pay to the Order of line only.)

### PURPOSE OF EXAMINATION

To determine whether Vilma Miz Serralta, whose known signatures are depicted on K1(1c-38c), wrote her purported signature depicted on Q1c.

### RESULTS OF EXAMINATIONS

1. It is my opinion that Vilma Miz Serralta, K1(1c-39c), very probably did not sign\*\* the original of the Q1c document.
2. It is my opinion that the "Vilma Miz Serralta" signature depicted on Q1c is very probably the product of a "cut and paste" operation in which the genuine signature of Ms. Serralta that was written as the endorsement on K1(25c) (i.e. the Serralta endorsement signature depicted on Bates No. KHAN00337) was "cut" from a copy of the back of the check listed and marked as K1(25c) and, after some size manipulation, this signature was "pasted" onto what became the Q1c document.
3. It is my opinion that the Q1c document was very probably created sometime after mid-January 2005.

### BASIS AND REASONS FOR OPINIONS

Handwriting identification is based on the premise that handwriting embodies features and characteristics which, in combination, are sufficiently personal to serve as the basis for identification. In other words, no two individuals write alike and an individual can be associated and identified with

\*\* - (The term "very probably did not" is defined within the American Society of Standards and Materials (ASTM) International Standard E 1658 as "...the examiner is virtually certain..." that the author of the known signatures did not write the questioned signature.)

his or her handwriting. Additionally, no one individual writes exactly the same way twice. While it is an acknowledged fact that not all writing is identifiable, a writing can be identified if it is of sufficient length and complexity and if a sufficient body of comparable known writing is available for evaluation.

In this case, the questioned document appeared to be a multiple generation copy. Additionally, all the known documents depicting the known Serralta signatures were also copies. Examination of originals is always preferable, as copies often preclude a complete evaluation of the entire document. In this case, the relatively poor quality of the questioned document resulted in distortion of the questioned signature as well as the remaining handwritten and machine printed information, and it precluded an evaluation of any of the subtle features that may or may not have been present in the original questioned signature.

Features such as line quality, skill level, directional strokes, pressure variation, pen lifts, hesitations, beginning and ending strokes, etc. could not be evaluated within the questioned Serralta signature depicted on Q1c. Only such gross features such as height and spacing relationships, baseline alignment, the placement of diacritics, etc., could be evaluated and those features alone cannot definitively determine authenticity.

An initial evaluation of the questioned Serralta signature determined that it was pictorially similar to the genuine Serralta signatures. As mentioned above, however, none of the subtle features in the questioned signature could be observed.

The evaluation of the questioned signature was conducted with the use of a hand held magnifier. Because of the poor quality of the signature page, the use of a stereoscopic binocular microscope was not considered appropriate. It was noted that the Serralta signature was written legibly and each letter form was distinct.

Additionally, this initial evaluation disclosed that while the questioned signature did not appear to contain any of the obvious signs of simulation or tracing, these signs could not be adequately evaluated due to the poor quality of the questioned copy. This aspect of the examination was relevant to the extent that slowly drawn, awkward writing is often not identifiable, while naturally executed handwriting facilitates the examination and identification process.

Furthermore, during this initial evaluation, no obvious signs of "cut and paste" were observed; however, as previously stated, the relatively poor quality of the questioned document precluded a proper evaluation of this consideration.



Next, the submitted "known" signatures of Vilma Miz Serralta were considered. Although none of the submitted known Serralta documents was original; nevertheless, each of these signatures was evaluated with appropriate lighting and magnification and each was inter-compared with each other to insure that they were all logically written by the same individual. The process of inter-comparison of known signatures is important because, occasionally, writings are submitted as "known", but they may actually have been written by some other person. The possibility that the submitted known writings may have actually been written by more than one person must always be considered and it is of concern since it is one of the major reasons why mistakes are made by qualified examiners.

The known Serralta signatures displayed a relatively consistent, narrow "range of variation" and they each fell within an acceptable habit pattern; therefore, they were considered to be an adequate, representative sample of Ms. Serralta's known signatures from the time period at issue. It was also determined that each of the known Serralta signatures appeared to have been naturally written with speed and fluency and with a skill level that appeared somewhat commensurate with the questioned signature. These known signatures were also written in a legible fashion and they were pictorially similar to the questioned Serralta signature on Q1c. Ultimately, the known signatures were all considered to be writing of the same individual. Furthermore, they were considered to be adequate in quantity and quality and, therefore, they should provide the basis for a proper comparative examination with the questioned Serralta signature.

Attention was then returned to the questioned Serralta signature depicted on Q1c and a detailed study was conducted. Handwriting features such as height relationships, spacing, the presence or absence of diacritics, baseline habits, pen lifts, and class and individualizing features were considered and evaluated within the limitations imposed by the questioned copy.

A comparative examination was then conducted between the questioned and known signatures to consider the possibility that the respective questioned and known signatures might be of common authorship. The questioned signature bore a distinctive similarity to the respective known group of signatures.


When similarities exist between questioned and known signatures, a limited number of possibilities can exist regarding the issue of genuineness: i.e. logically, the questioned signature can only be one of the following possibilities:



- a slowly drawn or rapidly executed simulation or a simulation from memory (i.e. an attempt to imitate by drawing),
- a tracing,
- a physical or electronic "cut and paste", or
- genuine.

The possibility of a "*slowly executed simulation*" was initially considered. In this possibility, a genuine signature is present and is used by the writer as the model to emulate. An examination disclosed that, while none of the "classic" signs of simulation (e.g. slow tremulous writing, blunt beginning and ending strokes, careful retouching, evenness of pressure throughout, unusual pen lifts, etc.) was present, this possibility could not initially be eliminated from consideration. None of the fine details of the questioned Serralta signature depicted on Q1c could be evaluated, although no specific evidence was discovered to suggest the signatures depicted were slowly executed simulations.

The possibility of a "*rapidly written simulation*" was also considered. In a rapidly written simulation, a genuine signature is also present. The simulator often considers and attempts to capture the genuine signature's most obvious features, such as capital letters, overall slant, size and any embellishing strokes. What the simulator often fails to observe or understand are the smaller, more subtle and, therefore, the more identifiable features of the handwriting. Aspects such as internal spacing and height relationships, direction of stroke, pressure patterns and the like are often omitted or accomplished incorrectly. In this case, as mentioned above, the subtle features of these signatures could not be evaluated and, therefore, the possibility of a rapidly executed simulation could also not be eliminated from consideration. It should also be noted, however, that no specific evidence was detected to suggest that the Serralta signature was the product of a rapidly written simulation.

A "*simulation from memory*" was then considered. In this alternative, the simulator is already familiar with the genuine signature that is going to be simulated, but does not have a model present. The absence of a genuine signature often results in a simulation which deviates from the model in significant ways and it is more likely to contain some of the actual writing habits of the simulator. Ultimately, because of the poor quality of the questioned copy, this alternative form of simulation could also not be completely discarded, although no evidence was detected to suggest that this questioned signature was a simulation from memory. 


Ultimately, due to the information discovered and described below with respect to the "cut and paste" possibility, the various simulation alternatives were logically discounted.

The possibility of a *tracing* was next considered. The act of tracing is an unnatural writing act in that the writing is not spontaneously executed. Often, tracings contain many, if not all, of the "classic" signs associated with slowly drawn simulations. Since the questioned copy was relatively poor, the option of tracing also could not be completely eliminated as a possibility, although no direct evidence was detected to determine that the questioned signature was a tracing. Ultimately, however, while the tracing option could not be completely discounted, the information discovered and described below with respect to the "cut and paste" possibility appeared the more logical possibility.

The next consideration was either a physical or an electronic "cut and paste". In these possibilities a genuine signature is "cut" from an existing document and "pasted" onto another document. The entire signature may be "cut and pasted" in one operation or portions of the signature (or portions of other signatures) may be manipulated in some manner. This manipulation can occur in a simple copying process or it may be take place within a more sophisticated computer program manipulation process.

During the evaluation of the cancelled checks listed and marked as K1(1c-38c) that depicted the known Serralta endorsement signatures, it was noted that one of these signatures, i.e. the endorsement signature on K1(25c), bore an extremely close similarity to the questioned signature depicted on Q1c. This examination disclosed that the first and middle names ("Vilma Miz") portion of the signature appeared consistent in size with one another, although significantly smaller than the same portion of the K1(25c) signature, while the last name ("Serralta") appeared somewhat larger than the first two names and closer in size to the last name of the K1(25c) signature.

Measurements were taken of the questioned signature depicted on Q1c in relation to the known signature depicted on K1(25c). It was determined that, when reduced to 78%, the first and middle names portions of the genuine K1(25c) signature virtually overlaid the comparable portion of the questioned Q1c signature. In my opinion, the 78% size reduction of the genuine signature may be significant as 78% is the default setting for the first reduction option on many digital office copiers. Additional measurements disclosed that, when reduced to 95%, the last name "Serralta" of the genuine K1(25c) signature virtually overlaid the last name of the questioned Q1c signature.



The last logical alternative option - that the questioned signature depicted on Q1c had actually been written by Ms. Serralta - was finally considered. The evidence found regarding the "cut and paste" possibility logically precluded this alternative; the questioned signature depicted on Q1c was very probably not written on the original of the Q1c document by Ms. Serralta.

Upon completion of this examination, it is my studied opinion that while the questioned Serralta signature depicted on Q1c appears to be similar to the known Serralta signatures, it was too strikingly similar to the K1(25c) signature to logically have been a genuine signature written on the original of the Q1c document. The similarities found within the two signatures exceed the similarities of any two signatures found within Ms. Serralta's body of known signatures.

Additionally, even with the two different size enlargements, the remaining similarities in letter construction and size and in spatial relationships are beyond the scope of what might be expected to be found in two genuine different signatures. The reader will recall the statement made earlier in the initial paragraph of this section of the report that "...no one individual writes exactly the same way twice." In my opinion, these two signatures are too similar and, logically, they come from the same, original signature depicted on the back of K1(25c).


It should be noted that, in "cut and paste" situations, the "original" of the document will not be produced by the side proffering the copy. Because the individual whose signature is being challenged actually did not sign the original of the questioned document, but rather signed another document from which the signature was "cut", an original questioned document with an original, inked signature cannot exist.

It is my experience that, in "cut and paste" situations, the copy produced by the proponent of the document is frequently a multiple generation copy upon which the questioned signature has been distorted by the copying process(es). This distortion may be the byproduct of the multiple generation process or it may also be an intended distortion of a conscious effort to conceal the fact of the fraudulent "cut and paste."

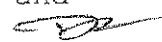
Often, in "cut and paste" situations, each side claims the other has the original. In this case, logic suggests that the "original" should be in the possession of Ms. Chopra or the side which she represents.


The questioned Serralta signature submitted in this case possessed the following features and characteristics that support the contention that it was strikingly pictorially similar to the known Serralta signature depicted on K1(25c):




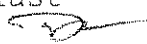
- The capital "V" of the first name "Vilma" of the questioned signature is similar to the "V" of the K1(25c) signature in the following significant ways:
    - The "V" begins with an open, eyelet formed in an underhanded, clockwise movement that results in a rounded top to the first segment of the letter.
    - After changing to a downward direction at the top left side of the "V", the letter continues toward the baseline in a slight outwardly bowed line segment.
    - At the bottom of the "V", the letter changes in a sharp upward direction to create a longer, slight outwardly bowed line that ends significantly higher than the uppermost portion of the left side of the letter.
    - The spatial relationship of the first and latter segments of the "V" is the same in both the questioned and K1(25c) signatures.
  - The following letter "i" in "Vilma" in the questioned signature is similar to the K1(25c) signature in the following significant ways:
    - The "i" begins with a short, slightly downward curved line that appears to touch the lower right side of the preceding "V".
    - The top of the "i" ends close to the right side of the "V" and it is approximately  $\frac{1}{4}$  the overall height of the right side of the "V".
    - The "i" continues downward and changed direction at a location below the beginning stroke of the "i" and below the bottommost portion of the preceding letter, "V".
    - At the bottom of the "i", it changes direction in a somewhat sharp movement and goes upward in a relatively long line segment which connects to the following letter "l".
    - The "i-dot" is relatively large and somewhat rounded and is placed to the right of the staff of the "i", about midway up the staffs of both the preceding "V" and the following "l", and closer to the "V" than the "l".
    - The spatial relationships of all aspects of the "i" with respect to beginning letter, "V", the following "l" and the baseline is the same in both the questioned and K1(25c) signatures.
- 


- The "l" in "Vilma" within the questioned signature is similar to the K1(25c) signature in the following significant ways:
  - o The "l" is formed with a long line segment that changes to a downward direction at the top to form a relatively long, narrow eyelet.
  - o The "l" is shorter than the ending portion of the "V" and slightly shorter than the uppermost portion of the beginning staff of the "V".
  - o The downward stroke of the "l" intersects with the initial upward stroke about mid-way down the overall height of the letter.
  - o The downward stroke of the "l" ends slightly above the lowermost portion of the preceding "i", with a sharp upward movement.
  - o The spatial relationships of all aspects of the "l" with respect to beginning letter, "V", the preceding "i", the following "m" and the baseline is the same in both the questioned and K1(25c) signatures.
- The "m" in "Vilma" within the questioned signature is similar to the K1(25c) signature in the following significant ways:
  - o The "m" is formed with a saw-toothed appearance with angular movements at the top and bottom.
  - o The centermost portion of the "m" is slightly closer to the first staff than it is to the final staff.
  - o The first hump of the "m" is slightly narrower than the second hump.
  - o The ending portion of the "m" begins with a sharp angle at the bottom of the final hump and it is disconnected from the terminal "a" in "Vilma".
  - o The ending stroke of the "m" touches the following letter "a" just above the lowermost portion of the "a".
  - o The spatial relationships of all aspects of the "m" with respect to the beginning letter, "V", the preceding letters "i" and "l", the following "a" and the baseline is the same in both the questioned and K1(25c) signatures.




- The "a" in "Vilma" within the questioned signature is similar to the K1(25c) signature in the following significant ways:
  - o The "a" is disconnected from the preceding "m".
  - o The "a" begins at approximately the same height as the last hump of the preceding "m" and goes toward the baseline.
  - o The bottommost portion of the "a" ends slightly above the lowermost portion of the preceding letter "m".
  - o At the bottom of the "a", it sharply changes direction in an upward movement.
  - o At the uppermost portion of the right side of the "a", it changes in a direction and retraces the upstroke to a location just below the midpoint of the upward stroke when it again changes direction in a rounded curve upward to the right.
  - o The "a" is open at the top.
  - o The last stroke of the "a" ends slightly above the uppermost portion of the central portion of the letter.
  - o The spatial relationships of all aspects of the "a" with respect to the entirety of the first name and in relation to the middle name is the same in both the questioned and K1(25c) signatures.
- The capital "M" of the middle name "Miz" of the questioned signature is similar to the "M" of the K1(25c) signature in the following significant ways:
  - o The "M" begins with a short, upward introductory stroke that begins just above the midpoint of what becomes the first staff of the letter.
  - o At the uppermost portion of the first peak of the "M" it changes to a downward movement creating a narrow arch.
  - o The first staff of the "M" is slightly bowed to the right.
  - o The following two humps of the letter "M" are somewhat peaked and the second peak is more rounded while the first peak is more angular. The bottom center portion of the "M" is slightly above the bottom of the first staff. 

- o The bottommost right side of the final hump of the "M" changes direction near the baseline in a somewhat angular upward movement.
- o The bottommost right side of the final hump of the "M" is slightly higher than the preceding bottom portions of the "M".
- o The "M" is letter connected to the following letter "i".
- o The spatial relationships of all aspects of the "M" with respect to the entirety of the first name and in relation to the remainder of the middle name is the same in both the questioned and K1(25c) signatures.
- The letter "i" of the middle name "Miz" of the questioned signature is similar to the "i" in the middle name of the K1(25c) signature in the following significant ways:
  - o The "i" begins with a relatively long, connected upward stroke from the preceding "M" that places the "i" significantly higher than the "i" in the first name.
  - o The uppermost portion of the "i" in "Miz" is approximately 2/3 the height of the capital "M" and it is higher than the uppermost portion of the following "z".
  - o The "i-dot" of the "i" in "Miz" is slightly to the right of the staff of the letter, it is slightly higher than the preceding "M", and is somewhat pronounced in the shape of an arch that bows to the left.
  - o The right side of the "i" is shorter than the introductory stroke and this ending stroke does not reach the baseline.
  - o The "i" ends with a rounded, underhanded curve that changes to an overhand, rounded movement that connects to the final "z".
  - o The spatial relationships of all aspects of the "i" in "Miz" with respect to the entirety of the first name and in relation to the remainder of the middle name is the same in both the questioned and K1(25c) signatures.
- The ending letter "z" of the middle name "Miz" of the questioned signature is similar to the "z" in the middle name of the K1(25c) signature in the following significant ways:
  - o The "z" is letter connected to the preceding "i". 


- o The top portion of the "z" is a rounded arch that is formed in a clockwise movement.
- o The centermost portion of the "z" has a sharp indentation that continues in another rounded, clockwise arch to form the initial portion of the lower body of the letter.
- o A relatively large clockwise loop is formed at the base of the letter that intersects the staff of the letter just below the indentation.
- o The "z" ends with a relatively long counterclockwise stroke that terminates just below and to the right of the uppermost portion of the letter.
- o The ending stroke of the "z" is somewhat emphatic in relation to the ending strokes of the "a" of "Vilma" and the ending "a" of the last name of the signature.
- o The spatial relationships of all aspects of the "z" in "Miz" with respect to the entirety of the first name and in relation to the remainder of the middle name, as well as the last name is the same in both the questioned and K1(25c) signatures.
- The letter "S" of the last name "Serralta" of the questioned signature is similar to the "S" of the last name of the K1(25c) signature in the following significant ways:
  - o The space between the beginning stroke of the "S" and the ending stroke of the "z" is closer than the space between the beginning stroke of the "M" and the ending stroke of the "a" in "Vilma".
  - o The "S" begins with a relatively long, gradually curved upward stroke that abruptly changes at the top to a downward stroke that creates a long, narrow ellipse.
  - o The downward stroke of the "S" sharply changes direction at the baseline in a clockwise movement and the letter ends with a slight movement to the left and a pen lift.
  - o The final movement of the "S" ends about 1/3 the overall height of the letter.
  - o The bottommost portions of the "S" are below the baseline and below the remaining letters of the last name. 

- o The spatial relationships of all aspects of the "S" in "Serralta" with respect to the entirety of the first and middle names, as well as the following letters of the last name is the same in both the questioned and K1(25c) signatures.
- The letter "e" is similar to the "e" of the last name of the K1(25c) signature in the following significant ways:
  - o The beginning stroke of the "e" touches the right side of the "S", just above the baseline.
  - o The eyelet of the "e" is very narrow.
  - o The "e" is spaced closely to the preceding "S".
  - o The "e" is approximately  $\frac{1}{4}$  the overall height of the preceding "S".
  - o The "e" is slightly shorter than the ending stroke of the "S".
  - o The connecting stroke of the "e" is interrupted shortly after curving upward from the baseline. This interruption appears to be a pen lift.
  - o The "e" is letter connected to the following letter "r".
  - o The spatial relationships of all aspects of the "e" with respect to the entirety of the preceding first and middle names and in relation to the remainder of the last name is the same in both the questioned and K1(25c) signatures.
- The first letter "r" is similar to the first letter "r" of the last name of the K1(25c) signature in the following significant ways:
  - o This first "r" is spaced relatively far away from the preceding "e".
  - o The first "r" has a long, slopping introductory stroke that sharply changes direction in a counterclockwise direction to form a small eyelet at the top left side.
  - o After the eyelet is formed, the letter continues to the right with a short, slightly upward line segment that ends with a sharp downward backward movement toward the baseline. 

- o The first "r" ends slightly below the baseline with a somewhat sharp upward movement and it is letter connected to the second "r".
- o The spatial relationships of all aspects of the first "r" with respect to the entirety of the preceding first and middle names and in relation to the remainder of the last name is the same in both the questioned and K1(25c) signatures.
- The second letter "r" is similar to the second letter "r" of the last name of the K1(25c) signature in the following significant ways:
  - o It is letter connected to the preceding "r".
  - o It is spaced closer to the first "r" than the first "r" is spaced to the preceding "e".
  - o The upper left portion of the second "r" appears to have a "closed" eyelet, rather than an open eyelet.
  - o The uppermost portion of the left side of the second "r" is slightly higher than the highest portion of the preceding "r".
  - o After the upper left portion of the second "r" is formed, the letter continues with a short, slightly downward stroke that changes direction toward the baseline with a somewhat rounded curve.
  - o At the baseline, the second "r" changes to an upward movement to the right where it ends with a pen lift.
  - o The lowermost portion of the right side of the second "r" ends above the lowermost portion of the right side of the first "r".
  - o The spatial relationships of all aspects of the second "r" with respect to the entirety of the preceding first and middle names and in relation to the remainder of the last name is the same in both the questioned and K1(25c) signatures.
- The first "a" in "Serralta" is similar to the first "a" of the last name of the K1(25c) signature in the following significant ways:
  - o It is letter disconnected from the preceding "r".
  - o It begins in the upper right side of the letter, at about a one o'clock position. 

- o There appears to be a slight gap between the beginning stroke of the "a" and the upper right side of the "a".
- o The upper right side of the "a" is slightly higher than the initial stroke.
- o The oval of the "a" is relatively long and narrow and it is pointed on the lower left side.
- o The spatial relationships of all aspects of the first "a" in "Serralta" with respect to the entirety of the preceding first and middle names and in relation to the preceding and following letters of the last name is the same in both the questioned and K1(25c) signatures.
- The "l" in "Serralta" is similar to the "l" of the last name of the K1(25c) signature in the following significant ways:
  - o The "l" is tall and thin and does not have an open eyelet.
  - o The "l" is approximately the same height as the "S".
  - o The "l" ends above the baseline with an sharp upward movement.
  - o The spatial relationships of all aspects of the "l" in "Serralta" with respect to the entirety of the preceding first and middle names and in relation to the preceding and following letters of the last name is the same in both the questioned and K1(25c) signatures.
- The "t" in "Serralta" is similar to the "t" of the last name of the K1(25c) signature in the following significant ways:
  - o The "t" is tall and thin and it is parallel to the preceding "l".
  - o It is slightly higher than the preceding "l".
  - o The slant of the "t" is slightly more right of vertical than the preceding "l".
  - o The crossing stroke of the "t" is about  $\frac{3}{4}$  up the staff of the letter.
  - o The crossing stroke of the "t" begins just slightly to the left of the staff.
  - o The crossing stroke of the "t" is relatively long and has a slight downward bow.



- o The crossing stroke of the "t" ends directly above the end of the final stroke of the following "a".
- o The "t" sharply changes direction at the bottom with a very short line segment that is disconnected from the following "a".
- o The bottom of the "t" is slightly lower than the bottom of the preceding "l".
- o The spatial relationships of all aspects of the "t" in "Serralta" with respect to the entirety of the preceding first and middle names and in relation to the preceding and following letters of the last name is the same in both the questioned and K1(25c) signatures.
- The terminal "a" in "Serralta" is similar to the terminal "a" of the last name of the K1(25c) signature in the following significant ways:
  - o The terminal "a" is disconnected from the preceding "t".
  - o This "a" begins about twelve o'clock with a downward movement to the left.
  - o The terminal "a" is long and narrow.
  - o The bottom left of the "a" is angular and it is spaced close to the bottom of the preceding "t".
  - o The "a" is open at the top.
  - o The right side of the top of the "a" is slightly lower than the beginning of the "a".
  - o From the uppermost right side of the "a", it continues with a downward movement back toward the left and, about mid-way down the staff, the letter changes direction to the right with a shallow curved stroke that ends above the baseline.
  - o The terminal stroke of the "a" is relatively long and seems to end somewhat abruptly directly below the end of the crossing stroke of the "t".
  - o The spatial relationships of all aspects of the "a" in "Serralta" with respect to the entirety of the preceding first and middle names and in relation to the preceding letters of the last name is the same in both the questioned and K1(25c) signatures. 


- The entire questioned signature appears to be written with a skill level commensurate with the K1(25c) signature.
- The entire questioned signature appears to be written with the same overall slant as the overall slant of the K1(25c) signature.
- The internal slants of the various letters within the questioned signature appears to be written with same internal slants of the various letters of the K1(25c) signature.
- The only appreciable differences between the questioned signature and the K1(25) signature is the absolute size of the first, middle and last names of the questioned signature and the sizes of the corresponding names of the K1(25c) signature.

The above individualized, comparable features and characteristics were found within both the questioned and the known K1(25c) signatures of Serralta. Their presence supports the belief that the K1(25c) signature (or a copy of it) was very probably "cut" and manipulated to ultimately create the questioned Serralta signature depicted on Q1c. The absence of the "original" (or a better quality copy) of the Q1c document was a limiting factor in this case; the absence of the original of K1(25c) may also be a limiting factor.

With the following possible exception, no significant difference was observed between the Q1c questioned signature and the K1(25c) known signature: The K1(25c) signature appears to have a small gap at the top of the capital "S". This gap is not present in the questioned signature nor is it a common feature within the other known Serralta signatures. This gap may (or may not) be the result of an imperfect copying process. Nonetheless, it is not presently considered to be a feature that would exclude the K1(25c) signature from being the original source of the questioned signature.

Finally, the questioned Q1c document was purported signed by Harleen Chopra on 8-29-02; however, since the logical source of the questioned Serralta signature depicted on Q1c was the genuine Serralta endorsement signature on the back of the check no. 212, i.e. K1(25c), which was issued on 1-14-05 and which depicts bank cancellation markings on the back of 1-21-05, the Q1c document very probably could not have been created until after mid-January, 2005.

#### REMARKS

If a better quality copy of Q1c and/or the original of K1(25c) can be obtained, definitive conclusions may result. 

Attached as **Exhibit "A"** to this report is a copy of the undersigned's Curriculum Vitae.

Attached as **Exhibit "B"** are copies of the undersigned's expert witness testimony for the years 2005 to present date.

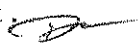
Attached as **Exhibit "C"** is a copy of my current Fee Schedule.

Attached as **Exhibit "D"** is a copy of the Q1c document depicting the questioned Serralta signature.

Attached as **Exhibit "E-1"** is a redacted copy of the face (at the bottom) of the face of Digital Age Management LLC check no. 212 (KHAN000336), which is the face of K1(25c). Attached as **Exhibit "E-2"** is a redacted copy of the back (at the top) of check no. 212 (KHAN000337), which is marked as K1(25c), that depicts the known Serralta endorsement signature that is very probably the source of the questioned Q1c Serralta signature. Attached as **Exhibit "E-3"** is an unredacted copy of the back of K1(25c) (at the top) that depicts the same known Serralta endorsement signature that is depicted on Exhibit "E-2".

Attached as **Exhibit "F"** is a copy of a "cut and paste" prepared for the purpose of demonstrating the striking similarities between the questioned signature depicted on Q1c (at the top above the horizontal line) and the source signature from K1(25c) (the signature immediately below the horizontal line) in relation to a representative sample of additional known signatures (the bottom five signatures). The "Q" or "K" exhibit designation of the source document precedes each signature and the corresponding KHAN Bates number follows each signature. This chart depicts the striking similarities that exist between the Q1c and K1(25c) signatures, as well as the similarities and variation differences that exist within the remaining known signatures.

The findings expressed above, i.e. that Serralta **"very probably did not sign"** the original of the Q1c document and that the questioned Serralta signature depicted on Q1c was **"very probably the product of a 'cut and paste'"** of the genuine Serralta signature depicted on K1(25c) are two of nine distinct probability statements that are used to express different degrees of certainty. These terms are defined in the American Society of Testing and Materials (ASTM) International Standard, E 1658 (*Standard Terminology for Expressing Conclusions of Forensic Document Examiners*). The undersigned ascribes to the definitions contained in this published standard. Attached as **Exhibit "G"** to this report is a copy of Standard E 1658.

If testimony is anticipated, please provide as much notice as possible to insure that other matters do not conflict. 

DISPOSITION OF MATERIAL EXAMINED

All evidence will be temporarily retained within the files of this office pending disposition instructions.

A handwritten signature in dark ink, appearing to read 'D. S. Moore', with a stylized flourish at the end.

DAVID S. MOORE  
Forensic Document Examiner

Encl: as

DAVID S. MOORE  
*Forensic Document Examiner*  
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American Society of  
Questioned Document  
Examiners

DIPLOMATE - American  
Board of Forensic  
Document Examiners, Inc.

Southwestern Association  
of Forensic Document  
Examiners

August 2008

American Academy of  
Forensic Sciences

Southern Association  
of Forensic Scientists

**FORMAL**

B.S., Criminal Justice, University of Nebraska, Omaha, NB; 1972 (4.0 GPA).

**EDUCATION**

M. Ed., Adult Education, Georgia Southern College, Statesboro, Georgia;  
1976 (4.0 GPA).

**PROFESSIONAL  
TRAINING**

Questioned Document Course, US Army Criminal Investigation (CID) Laboratory,  
Fort Gordon, GA; Jan. 1974 - Dec. 1975.

US Secret Service Questioned Document Course, Washington, D.C.; Nov. 1975.  
Survey of Questioned Documents, Federal Bureau of Investigation, Quantico, VA;  
Jul. 1975.

Questioned Documents Examination Proficiency Tests, Crime Laboratory  
Proficiency Testing Program: 1984, 1985, 1986, 1987, 1988, 1989, 1990,  
1991, 1992, 1993, 1995, 1996, 1997, 1998 (tests 9806 & 9814), 1999 (tests  
99-521 & 99-524), 2000 (tests 00-521 & 00-524), 2001 (test 01-521), 2003  
(test 03-521).

ABFDE Business Records Workshop; ASQDE Meeting, Ashville, NC; Aug. 2008.

Typography - Testing to Testimony Workshop, ASQDE Meeting, Ashville, NC; Aug.  
2008.

Authenticating Questioned Documents Seminar, ASQDE Meeting, Boulder, CO; Aug.  
2007

Photoshop Class, Southwestern Association of Forensic Document Examiners  
Meeting, Tempe, AZ; Sep. 2006

How Frye and Daubert Have Changed the Presentation of Criminalistics and  
Questioned Documents in Court Workshop; American Academy of Forensic  
Sciences (AAFS) Meeting, Seattle, WA; Feb. 2006.

Digital Output Devices & Forensic Examination of Electrophotographic  
Documents Workshops, Southwestern Association of Forensic Document  
Examiners (SWAFDE) Fall Meeting, Golden, CO; Oct. 2004.

Adobe Photoshop for Forensic Document Examiners, American Academy of Forensic  
Sciences (AAFS) Meeting, Dallas, TX, Feb. 2004.

Practical Digital Photography Workshop, AAFS Meeting, Atlanta, GA; Feb. 2002.

Tour of Scientific Games, Security Printing Company That Produces Lottery  
Tickets & Games, AAFS Meeting, Atlanta, GA; Feb. 2002.

Paper Science Related to Questioned Documents Workshop, AAFS Meeting, Atlanta,  
GA; Feb. 2002.

Detection of Counterfeit Documents Workshop, SWAFDE Fall Meeting, Tempe, AZ;  
Sep. 2001.

Forensic Examination of Typographic Documents Workshop, SWAFDE Fall Meeting,  
Tempe, AZ; Sep. 2001.

History of Handwriting, Basic Calligraphy, Sketching, and Signature Workshop;  
SWAFDE Spring Meeting, Monterey, CA; Mar. 2001.

CURRICULUM VITAE (Cont'd)PROFESSIONAL  
TRAINING  
(Cont'd)

The 2nd International Symposium on the Forensic Examination of Questioned Documents (sponsored by the FBI), Albany, NY, Jun. 1999.  
 National Conference on Science and the Law, San Diego, CA, Apr. 1999.  
 Medical Record Examination Advance Study Workshop (sponsored by ABFDE), San Diego, CA, Mar. 1998.  
 Difficult & Complex Handwriting Examinations Seminar, (sponsored by the ABFDE), Burlingame, CA, Jan. 1997.  
 Managing Your Private Practice Seminar, SWAFDE 15th Anniversary Conference, Tucson, AZ, Oct. 1996.  
 The Fifth Annual National Expert Witness And Litigation Seminar, Hyannis, MA; Jun. 1996.  
 Video Spectral Examinations: Imaging Documents Throughout the Spectrum Workshop, AAFS Meeting, Nashville, TN; Feb. 1996.  
 Digital Image Processing for Questioned Document Examiners Workshop, AAFS Meetings, Seattle WA; Feb. 1995 & Nashville, TN; Feb. 1996.  
 Questioned Document Reference Database and Typewriter Classification Database Workshop, AAFS Meeting, Seattle, WA; Feb. 1995.  
 Fluorescence and Luminescence Techniques in Questioned Documents Symposium, California Criminalistics Institute (CCI), CA Department of Justice, Sacramento, CA; Feb. 1992.  
 Courtroom Presentation of Evidence Class, CCI, CA Department of Justice, Sacramento, CA; Oct. 1991.  
 Laser Seminar, Southern California Laser Study Group, Downey, CA; Feb. 1990.  
 Photocopier Workshop, AAFS Meeting, Philadelphia, PA; Feb. 1988.  
 Questioned Documents Signature Seminar, AAFS Meeting, Philadelphia, PA; Feb. 1988.

RELEVANT WORK  
EXPERIENCE

1994-Present: Full-time private practice as proprietor of *Moore Document Laboratory*, Fair Oaks, CA.  
 1984-1994: Questioned Document Examiner II, California Department of Justice, Sacramento, CA.  
 1982-1984: Examiner of Questioned Documents, Las Vegas Metro. Police Criminalistics Laboratory, Las Vegas, NV.  
 1980-1982: Senior Questioned Document Analyst, Southern Region US Postal Crime Lab, Memphis, TN  
 1980: Questioned Document Examiner II, California Department of Justice, Sacramento, CA.  
 1978-1979: Chief, Questioned Documents Section, US Army CID Laboratory, Fort Gordon, GA.  
 1976-1978: Examiner of Questioned Documents, US Army CID Laboratory, Fort Gordon, GA.  
 1974-1975: Questioned Document Student, US Army CID Lab., Fort Gordon, GA.  
 1965-1979: Special Agent, US Army Criminal Investigations (CID) Agency.

CERTIFICATE

Board Certified (and Tested) as "Diplomate" of the American Board of Forensic Document Examiners (ABFDE); since 1978. (Certificate #13)

PROFESSIONAL  
MEMBERSHIPS/  
OFFICES HELD

The American Academy of Forensic Sciences (AAFS), Fellow, since 1975.  
 The Southern Association of Forensic Scientists (SAFS), Member, since 1975.  
 The Southwestern Association of Forensic Document Examiners (SWAFDE), Member, since 1985.  
 The American Society of Questioned Document Examiners (ASQDE) since 2008.  
 Northern California Laser Study Group, Member from 1988 - 1994.  
 American Society of Testing & Materials (ASTM), Member since 1997.

CURRICULUM VITAE (Cont'd)PROFESSIONAL  
MEMBERSHIPS/  
OFFICES HELD  
(Cont'd.)

Document Examiners of Northern California Study Group (DENC) since 1997.  
 Coalition of Private Practice Examiners (COPPE), Member since 1997.  
 National Honor Society of Phi Kappa Phi, Member since 1976.  
 Director of the Board of ABFDE; 1999- 2002.  
 Director of the Board of Forensic Specialty Accreditation Board; 2000 -2002.  
 Northern Pacific Regional Representative of SWAFDE; 1998-2003.  
 Northern California Regional Representative of SWAFDE; 1997.  
 Proficiency Testing Committee, SWAFDE, Chairperson, 1989/90.  
 Continuing Education Committee, ABFDE, Chairperson, 1999-2002.  
 Editorial Staff of the Southwestern Examiner, Member, 1992.  
 Public Relations Committee, SWAFDE, Member, 1996/1997.  
 COPPE Representative at Scientific Working Group - Documents (SWGDOC)  
 Subcommittee for Standard Operating Procedures and Terminology, Apr. 1999.

PROFESSIONAL  
MEETINGS

American Academy of Forensic Sciences (AAFS): 1975, 1978, 1980, 1981, 1984,  
 1985, 1986, 1987, 1988, 1991, 1993, 1995, 1996, 1998, 2000, 2002, 2003, 2004 &  
 2005.  
 American Society of Question Document Examiners (ASQDE): 1976, 1983, 1988,  
 1989, 1990, 1994, 1997, 2001, 2007 & 2008.  
 International Association for Identification (IAI): 1988.  
 Southwestern Association of Forensic Document Examiners (SWAFDE): Spr. 1983,  
 Fall 1985, Fall 1986, Fall 1987, Spr. & Fall 1988, Fall 1989, Spr. 1990,  
 Spr. & Fall 1991, Spr. 1992, Spr. 1993, Spr. 1994, Spr. & Fall 1996,  
 Fall 1997, Spr. & Fall 1998, Spr. & Fall 1999, Spr. & Fall 2000, Spr. & Fall  
 2001, Spr. & Fall 2002, Spr. 2003, Spr. & Fall 2004, Spr. & Fall 2005, Spr.  
 & Fall 2006, Fall 2007, Spr. 2008.  
 California State Div. of the International Association for Identification, 1986.  
 Southern Association of Forensic Sciences (SAFS): 1974, 1978, 1979 & 1982.  
 California Association of Criminalists (CAC): Spr. 1989.  
 California State Technical Exchange Program (STEP): 1985, 1989, 1990 & 1991.  
 Northern California Laser Study Group: Nov. 1988, Mar. 1989, Oct. 1989, Jul.  
 1990, Sep. 1990, Mar. 1991, May 1992, Jan. 1993, & Feb. 1994.  
 Document Examiners of Northern California (DENC) Study Group: Mar., Jun. &  
 Sep. 1997; Jan., Mar. & Jul. 1998; Mar. & Nov. 1999; Aug. 2000 & May 2003.  
 American Society of Testing & Materials (ASTM) Subcommittee E30.02 Questioned  
 Documents: 1998 & 2002.  
 National Conference on Science and the Law: Apr. 1998; Oct. 2000.

PROFESSIONAL  
PAPERS

- An Unusual Signature. Presented at the 1975 Meeting of SAFS.  
A Comprehensive Two-Year Training Program for Questioned Document Examiners.  
 Presented at the 1976 Conference of ASQDE.
- Determining the Sequence of Ball-Point Pen Writings - A New Method?  
 Presented at the 1977 Meeting of AAFS and Published in Jan. 1978, Journal  
 of Forensic Sciences.
  - The Importance of Shading Habits in Handwriting Identification - A Case Study.  
 Presented at the Fall 1978 Meeting of SAFS and Published in Jan. 1983,  
 Journal of Forensic Sciences.
  - Evaluation of a Method to Detect the Site of Rubber Erasures by Powder.  
 Presented at the Fall 1979 Meeting of SAFS and Published in Oct. 1981,  
 Journal of Forensic Sciences.
  - The Identification of an Office Machine Copy of a Printed Copy of a  
 Photographic Copy of an Original Sales Receipt. Presented at the 1981  
 Meeting of AAFS and Published in Jan 1982, Journal of Forensic Sciences.
  - Handprinted Notes from a 13-Year-Old Boy. Presented at the Spring 1983  
 Meeting of SWAFDE.

CURRICULUM VITAE (Cont'd)PROFESSIONAL  
PAPERS  
(Cont'd.)

- A Case Study of the Dangers of Office Machine Copiers: Beware of Self-Serving Standards. Presented at the 1983 Conference of ASQDE.
- The Importance of Originals: Two Typewriter Case Histories. Presented at the Fall 1985 Meeting of SWAFDE.
- The Electrostatic Detection Apparatus (ESDA) and its Effects on Latent Prints on Paper. Presented at the 1986 Meeting of CSDIAI and 1987 Meeting of AAFS and Published in Mar. 1988, Journal of Forensic Sciences.
- Obtaining Original Typewriter Specimens - A Case Study. Presented at the 73rd Annual Conference (1988) of IAI.
- Conspiracy to Surreptitiously Provide False Nonrequest Known Writings. Presented at the 1989 Meeting of STEP, the 1989 Conference of ASQDE and the Fall 1989 Meeting of SWAFDE.
- The Appearance of Selective Differentiation of Homogenous Ball Pen Ink Lines by Reflected Infrared Irradiation. Presented at the 1989 Conference of ASQDE and Published in the 1990 Vol. 45 issue of the Forensic Science International under the title: Abnormalities Encountered in Infrared Examinations of Ball Pen Writing Over Correction Fluid.
- Page to Book Association Using the Electrostatic Detection Apparatus (ESDA). Presented at the Spring 1990 Meeting of SWAFDE and 1991 Meeting of AAFS.
- VSC-1 Resolves Confusion between Carbon and Ink Lines. Presented at the Spring 1990 Meeting of SWAFDE, the Jul. 1990 Northern California Laser Study Group and the 1990 Meeting of ASQDE.
- Rainbow Pencils. Presented at the Spring 1990 Meeting of SWAFDE, the 1990 Meeting of STEP, the 1990 Meeting of ASQDE and the 1991 Meeting of AAFS.
- Would You Believe a .308 Caliber Pen? Presented at Spring 1991 Meeting of SWAFDE and the 1991 Meeting of STEP.
- The Care and Feeding of ESDA Documents. Presented at the Spring 1991 Meeting of SWAFDE.
- How to Select a Forensic Document Examiner, Published in the Summer 1991 Vol. 10, No. 2 issue of the Southwestern Examiner; the Summer 1991 issue of The Litigator; the December 1993-January 1994 issue of San Francisco Attorney; in the Fall 1994 Vol. 1, Issue 3 of the Bar Briefs newsletter of the Sonoma County, CA Bar Assoc.; in the Spring 1995, Vol. XVI, No. 2 issue of The Manuscript Society News; in the Oct/Dec 1995, Vol. 1, No. 4, issue of the International Journal of Forensic Document Examiners; included as an enclosure to the January 1997 information pamphlet of the ABFDE.
- Two Pens, One Signature. Presented at Spring 1992 Meeting of SWAFDE.
- An Identification of an Elimination. Presented at Spring 1993 SWAFDE Meeting.
- The Invalid Application of Valid Techniques. Presented at the 65<sup>th</sup> Annual Conference of the ASQDE, Boulder, CO, Aug. 2007 & the Spr. 2008 Meeting of the SWAFDE, San Diego, CA, Apr. 2008.

COURT  
TESTIMONY

I have appeared, qualified and testified as an expert in the field of questioned documents in Justice, Municipal, Superior, Federal and Military courts and in Administrative Hearings, as well as in depositions and arbitrations, **in excess of 625 times** in more than 20 states within the United States, including a majority of the counties within California.

TEACHING  
EXPERIENCE

I have presented numerous classes on a variety of questioned document topics to federal, state and local attorneys and law enforcement officials; banking and insurance personnel; private civic organizations and individuals.

SPECIAL  
AWARDS

The *Legion of Merit*, US Army, 1980, for services while Chief of the Questioned Document Section, US Army Criminal Investigation Laboratory, Ft. Gordon, GA.

**Exhibit 2**

David Moore's First Supplemental Report,  
May 22, 2009  
Including Exhibit K

DAVID S. MOORE  
*Forensic Document Examiner*  
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American Society of  
Questioned Document  
Examiners

May 22, 2009

DIPLOMATE - American  
Board of Forensic  
Document Examiners (1978)

Southwestern Association  
of Forensic Document  
Examiners

American Academy of  
Forensic Sciences

Southern Association  
of Forensic Scientists

Ms. Christina Chung, Esq.  
Legal Aid Society Employment Law Center  
600 Harrison Street, Suite 120  
San Francisco, CA 94107

SUBJECT: 1<sup>st</sup> Supplemental Report pertaining to Serralta v.  
Khan (DM-09/124)

MATERIAL EXAMINED

EXHIBIT  
NUMBER

DESCRIPTION OF EXHIBITS

(The following exhibits were received from opposing counsel,  
Attorney Jonathan D. Hicks on April 30, 2009 via Federal Express  
Airbill #796562437142.)

- Q1c\* Copy of one-page machine printed document entitled  
"To Whom It may Concern", depicting "Harleen  
Chopra" signature, dated 8-19-02, and an undated  
questioned "Vilma Miz Serralta" signature. (This  
copy is a better quality copy of a different  
version of the document originally marked with  
Bates No. Khan 000308)
- K1(1-77\*\*) Originals of 77 checks written on Bank of America  
personal account of Sakhawat M. and Roomy Khan;  
Bank of America business account of Digital Age  
Management, LLC; and California Federal Bank  
business account of

\* - c = copy

\*\* - (Note: Also submitted with the above listed items were copies of  
two pages of the redacted faces of various America checks on the  
Khans' personal account. These documents did not contain any  
information relevant to this forensic examination and, therefore,  
they were not considered during my evaluations.)



Digital Age Capital, LLC, written between 7-2-02 and 8-2-06, the known signatures of Vilma Miz Serralta. (Among these checks were the originals of those check copies with Bates Nos. KHAN000260 through KHAN000353.)


### PURPOSE OF EXAMINATION

To determine whether Vilma Miz Serralta, whose known signatures are contained on K1(1-78), wrote her purported signature depicted on Q1c. Furthermore, to conduct any additional examinations deemed appropriate.

### RESULTS OF EXAMINATIONS

1. It is my opinion that Vilma Miz Serralta, K1(1-77), did not sign\*\*\* the original of the Q1c document.
2. It is my opinion that the "Vilma Miz Serralta" signature depicted on Q1c is the product of a "cut and paste" operation in which the genuine signature of Ms. Serralta that was written as the endorsement on K1(25) (i.e. the Serralta endorsement signature depicted on Bates No. KHAN00337) was "cut" from a copy of the back of the check listed and marked as K1(25) and, after some size manipulation, this signature was "pasted" onto what became, ultimately, the Q1c document.
3. It is my opinion that the Q1c document was created sometime after January 21, 2005.
4. It is my opinion that at some time after the K1(25) check was copied for production (*I have been informed that this was in mid-February 2009*) and prior to my receipt of the evidence from opposing counsel, Mr. Hicks on 4-30-09 the genuine Serralta endorsement signature on the back of this check was consciously altered in an attempt to obscure that fact that it was the source of the "cut and paste" signature depicted on Q1c.
5. It is my opinion that at some time after the check marked as K1(10) (i.e. personal check no. 4204) was produced by opposing counsel, Mr. Hicks, (*I have been informed that this was in mid-February, 2009*) and prior to

\*\*\* - (Note: The term "did not" is defined within the American Society of Standards and Materials [ASTM] International Standard E 1658 under the category of "elimination" as "...the highest degree of confidence expressed by the document examiner in handwriting comparisons." that the author of the known signatures did not write the questioned signature.)



my receipt of the evidence from Mr. Hicks on 4-30-09 the genuine Serralta endorsement signature on the back of this check was consciously altered.

### BASIS AND REASONS FOR OPINIONS

A discussion of the basis of handwriting identification is outlined in the basic report, dated April 15, 2009. That discussion is valid to the extent that the examinations conducted and the procedures employed in this supplemental examination, as memorialized in this supplemental report, were done in accordance with standard procedures and accepted protocols for this type of case.


None of the findings expressed in this supplemental report contradict the initial findings as expressed in the basic report but, rather, they were the result of the additional evidence (i.e. the better quality copy of the questioned document and the originals of the known checks) that was provided.

The new copy of the questioned document, while it was a "better" copy of what had been provided for the initial examination, still appeared to be a multiple generation copy. Additionally, this new copy was still considered to be a relatively poor quality copy; the machine printing and the signatures were extremely light and a great amount of fine detail was not present on this copy. For example, when viewed under magnification, the font of the machine printing was distorted and unclear. Furthermore, in places, the lines of the questioned Serralta signature appeared broken. It was noted that this condition (i.e. poor quality, multiple generation copy), is often found in other similar "cut and paste" cases.

An examination of the back of the Q1c copy provided by opposing counsel, Mr. Jonathan D. Hicks, disclosed the presence of a rubber stamp impression of "Exhibit 3". The relevance or importance of this rubber stamp information could not be determined.

In this case, the relatively poor quality of the questioned document resulted in distortion of the questioned signature as well as the remaining handwritten and machine printed information, and it hindered an evaluation of the subtle features that were actually present in the original, genuine source signature (i.e. the K1[25] signature).

An initial evaluation of the questioned Serralta signature on this new copy determined that it was pictorially similar to the genuine Serralta signatures. As mentioned above, however, the subtle features in the questioned signature could be observed.



The evaluation of the questioned signature on the new copy was conducted with the use of a hand held magnifier. Because of the poor quality of the signature page, the use of a stereoscopic binocular microscope was not considered appropriate. It was noted that the Serralta signature was written legibly and each letter form was distinct.

Additionally, this initial evaluation disclosed that while the questioned signature did not appear to contain any of the obvious signs of simulation or tracing, these signs could not be adequately evaluated due to the poor quality of the questioned copy. This aspect of the examination was relevant to the extent that slowly drawn, awkward writing is often not identifiable, while naturally executed handwriting facilitates the examination and identification process.

Furthermore, during this initial evaluation of this new copy, no obvious signs of "cut and paste" were observed; however, as previously stated, the relatively poor quality of the questioned document precluded a proper evaluation of this consideration.

Next, the submitted "known" signatures of Vilma Miz Serralta were considered. It was determined that the original cancelled checks provided for this supplemental examination contained the originals of those thirty-eight (38) check copies listed in the initial report. Each of the Serralta signatures was evaluated with appropriate lighting and magnification and each was inter-compared with each other to insure that they were all logically written by the same individual. The process of inter-comparison of known signatures is important because, occasionally, writings are submitted as "known", but they may actually have been written by some other person. The possibility that the submitted known writings may have actually been written by more than one person must always be considered and it is of concern since it is one of the major reasons why mistakes are made by qualified examiners.

The known Serralta signatures displayed a relatively consistent, narrow "range of variation" and they each fell within an acceptable habit pattern; therefore, they were considered to be an adequate, representative sample of Ms. Serralta's known signatures from the time period at issue. It was also determined that, with several exceptions, each of the known Serralta signatures had been naturally written with speed and fluency and with a skill level that appeared commensurate with the questioned signature. These known signatures were also written in a legible fashion and they were pictorially similar to the questioned Serralta signature on Q1c.

Ultimately, the known signatures were all considered to be writing of the same individual. Furthermore, they were




considered to be adequate in quantity and quality and, therefore, they provided the basis for a proper comparative examination with the questioned Serralta signature.

During the examination of these genuine signatures, it was discovered that the endorsements signatures on the backs of K1(10) (personal check no. 4204) and K1(25) (business check no. 212) **had been altered**. Logically, these alterations occurred between the dates the copies were produced during discovery (mid-February, 2009) and before the originals were received in this laboratory on 4-30-09.

With appropriate magnification, it was determined that the Serralta endorsement signature on K1(10) had been originally written with a black ball ink. A different black ball ink was used to alter this signature. The K1(10) signature was altered in the following ways:

- A short, vertical stroke was added to the top of the "i" in "Vilma" to extend the height of the letter.
- A short, vertical stroke was inserted in the connecting stroke between the "i" the "l" in "Vilma".
- A period (.) was added after the middle initial "M".
- A short, curved stroke was added to the beginning stroke of the capital letter "S" in "Serralta".

With appropriate magnification, it was also determined that the Serralta endorsement signature on K1(25) had been originally written with a black ball ink. Two different inks were used to alter this signature: one black ball ink that was similar to the ink of the original signature was used to most of the alterations, while another black ink that appears to be a liquid ink that was different than the other inks was used to make one of the alterations. The K1(25) signature was altered in the following ways:

- A short, capping stroke was added to the top of the "a" in "Vilma" to close the top of the letter.
- A short, vertical stroke was added to the top of the "i" in "Vilma" to extend the height of the letter.
- A slightly curved, vertical stroke was inserted in a location near the beginning stroke of the "S" in "Serralta". It was this alteration that was accomplished with the different ink.
- A small amount of ink was added at the disconnect between the ending stroke of the "e" and the beginning stroke of the first "r" in "Serralta" 

- Several short, diagonal strokes were added midway up the introductory stroke of the first "r" in "Serralta".
- A short, capping stroke was added to the top of the first "a" in "Serralta" to close the top of the letter.
- A short, capping stroke was added to the top of the terminal "a" in "Serralta" to close the top of the letter.

In the undersigned's view, the alterations to the K1(25) endorsement signature **was done with a conscious attempt** to obscure the fact that it was this signature that had been used as the source of the Q1c "cut and paste". In my view, there is no other logical reason for someone to "single out" this specific genuine Serralta endorsement signature and make the specific types and numbers of alterations to it, other than to purposefully attempt to conceal the fact that this signature was the actual model that had been used to fabricate the Q1c document.

It is a distinct possibility that the alterations to the K1(10) endorsement signature were made consciously as "practice" in preparation for ultimately altering the K1(25) signature.

Attention was then returned to the questioned Serralta signature depicted on Q1c and a detailed study was conducted. Handwriting features such as height relationships, spacing, the presence or absence of diacritics, baseline habits, pen lifts, and class and individualizing features were considered and evaluated within the limitations imposed by the questioned copy.

A comparative examination was then conducted between the questioned and known signatures to consider the possibility that the respective questioned and known signatures might be of common authorship. As previously stated, the questioned signature bore a distinctive similarity to the respective known group of signatures. More specifically it was determined that, except for the absolute size and excluding the alterations, the questioned signature was strikingly similar to the K1(25) endorsement signature. The similarities between the two signatures were such that they appeared to be identical.

When striking significant similarities exist between questioned and known signatures, a limited number of possibilities can exist regarding the issue of genuineness: i.e. logically, the questioned signature can only be one of the following possibilities:

- a slowly drawn or rapidly executed *simulation* or a simulation from memory (i.e. an attempt to imitate by drawing),




- a tracing,
- a physical or electronic "cut and paste", or
- genuine.

The possibility of a "slowly executed simulation" was initially considered. In this possibility, a genuine signature is present and is used by the writer as the model to emulate. An examination disclosed that none of the "classic" signs of simulation (e.g. slow tremulous writing, blunt beginning and ending strokes, careful retouching, evenness of pressure throughout, unusual pen lifts, etc.) was present. Ultimately, due to the evidence of "cut and paste" and alterations, this possibility was eliminated from consideration.

The possibility of a "rapidly written simulation" was also considered. In a rapidly written simulation, a genuine signature is also present. The simulator often considers and attempts to capture the genuine signatures most obvious features, such as capital letters, overall slant, size and any embellishing strokes. What the simulator often fails to observe or understand are the smaller, more subtle and, therefore, the more identifiable features of the handwriting. Aspects such as internal spacing and height relationships, direction of stroke, pressure patterns and the like are often omitted or accomplished incorrectly. In this case, as mentioned above, even though the subtle features of the signature could not be completely evaluated, the possibility of a rapidly executed simulation was ultimately eliminated from consideration due to the evidence of "cut and paste" and alterations that were discovered during this subsequent examination.

A "simulation from memory" was then considered. In this alternative, the simulator is already familiar with the genuine signature that is going to be simulated, but does not have a model present. The absence of a genuine signature often results in a simulation which deviates from the model in significant ways and it is more likely to contain some of the actual writing habits of the simulator. Ultimately, this alternative form of simulation was also discarded, due to the evidence of "cut and paste" and alterations that were discovered.

The possibility of a tracing was next considered. The act of tracing is an unnatural writing act in that the writing is not spontaneously executed. Often, tracings contain many, if not all, of the "classic" signs associated with slowly drawn simulations. Ultimately, the evidence of the "cut and paste" and the alterations provided sufficient information to discount this alternative.



The next consideration was either a physical or an electronic "cut and paste". In these possibilities a genuine signature is "cut" from an existing document and "pasted" onto another document. The entire signature may be "cut and pasted" in one operation or portions of the signature (or portions of other signatures) may be manipulated in some manner. This manipulation can occur in a simple copying process or it may be take place within a more sophisticated computer program manipulation process.

During the evaluation of the cancelled checks listed and marked as K1(1-78) that contained the known Serralta signatures, it was determined that one of these signatures, i.e. the endorsement signature on K1(25), bore an strikingly close similarity to the questioned signature depicted on Q1c. This examination disclosed that the first and middle names ("Vilma Miz") portion of the signature appeared consistent in size with one another, although significantly smaller than the same portion of the K1(25) signature, while the last name ("Serralta") appeared somewhat larger than the first two names and closer in size to the last name of the K1(25) signature.

Measurements were taken of the questioned signature depicted on Q1c in relation to the known signature on K1(25). It was determined that with the exception of the "V" in "Vilma", when reduced to 78%, the remainder of the first and middle names portions of the genuine K1(25) signature virtually overlay the comparable portions of the questioned Q1c signature. In my opinion, the 78% size reduction of the genuine signature may be significant as 78% is the default setting for the first reduction option on many digital office copiers. Additional measurements disclosed that, when reduced to 95%, the "V" in "Vilma" and the last name "Serralta" of the genuine K1(25) signature virtually overlay the "V" in the first name and the entire last name of the questioned Q1c signature.

It should be noted that, in "cut and paste" situations, the "original" of the questioned document will not be produced by the side proffering the copy. Because the individual whose signature is being challenged actually did not sign the original of the questioned document, but rather signed another document from which the signature was "cut", an original questioned document with an original, inked signature cannot exist.

It is my experience that, in "cut and paste" situations, the copy produced by the proponent of the document is frequently a multiple generation copy upon which the questioned signature has been distorted by the copying process(es). This distortion may be the byproduct of the multiple generation process or it may also be an intended distortion of a conscious effort to conceal the fact of the fraudulent "cut and paste."



Often, in "cut and paste" situations, each side claims the other has the original. In this case, logic suggests that the "original" should be in the possession of Ms. Chopra or the defendants' side.

The last logical alternative option - that the questioned signature depicted on Q1c had actually been written by Ms. Serralta - was also considered. The "cut and paste" evidence, however, precluded this alternative. The questioned signature depicted on Q1c **was not written** on the original of the Q1c document by Ms. Serralta. Correspondingly, the Serralta signature depicted on Q1c was transferred onto the Q1c document in a **"cut and paste" operation** during which the genuine Serralta signature on the back of K1(25) was copied and manipulated.

Upon completion of this examination, it is my studied opinion that while the questioned Serralta signature depicted on Q1c appears to be similar to the known Serralta signatures, it was too strikingly similar to the K1(25) signature to logically have been a genuine signature written on the original of the Q1c document. The similarities found within the two signatures exceed the similarities of any two signatures found within Ms. Serralta's body of known signatures.


Additionally, even with the two different size enlargements, the remaining similarities in letter construction and size and in spatial relationships are beyond the scope of what might be expected to be found in two genuine different signatures. The reader will recall the statement made earlier in the initial paragraph of this section of the report that "...no one individual writes exactly the same way twice." In my opinion, these two signatures are too strikingly similar and, logically, the questioned signature comes from a manipulated copy of the original signature on the back of K1(25).


The questioned Serralta signature submitted in this case possessed the following features and characteristics that support the contention that it was strikingly pictorially similar to the known Serralta signature depicted on K1(25):


- The capital "V" of the first name "Vilma" of the questioned signature is similar to the "V" of the K1(25) signature in the following significant ways:
  - o The "V" begins with an open, eyelet formed in an underhanded, clockwise movement that results in a rounded top to the first segment of the letter.
  - o After changing to a downward direction at the top left side of the "V", the letter continues toward the baseline in a slight outwardly bowed line segment.

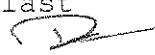


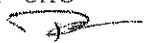
- o At the bottom of the "V", the letter changes in a sharp upward direction to create a longer, slight outwardly bowed line that ends significantly higher than the uppermost portion of the left side of the letter.
- o The spatial relationship of the first and latter segments of the "V" is the same in both the questioned and K1(25) signatures.
- The following letter "i" in "Vilma" in the questioned signature is similar to the K1(25) signature in the following significant ways:
  - o The "i" begins with a short, slightly downward curved line that appears to touch the lower right side of the preceding "V".
  - o The top of the "i" ends close to the right side of the "V" and it is approximately  $\frac{1}{4}$  the overall height of the right side of the "V".
  - o The "i" continues downward and changed direction at a location below the beginning stroke of the "i" and below the bottommost portion of the preceding letter, "V".
  - o At the bottom of the "i", it changes direction in a somewhat sharp movement and goes upward in a relatively long line segment which connects to the following letter "l".
  - o The "i-dot" is relatively large and somewhat rounded and is placed to the right of the staff of the "i", about midway up the staffs of both the preceding "V" and the following "l", and closer to the "V" than the "l".
  - o The spatial relationships of all aspects of the "i" with respect to beginning letter, "V", the following "l" and the baseline is the same in both the questioned and K1(25) signatures.
- The "l" in "Vilma" within the questioned signature is similar to the K1(25) signature in the following significant ways:
  - o The "l" is formed with a long line segment that changes to a downward direction at the top to form a relatively long, narrow eyelet.
  - o The "l" is shorter than the ending portion of the "V" and slightly shorter than the uppermost portion of the beginning staff of the "V".

- o The downward stroke of the "l" intersects with the initial upward stroke about mid-way down the overall height of the letter.
- o The downward stroke of the "l" ends slightly above the lowermost portion of the preceding "i", with a sharp upward movement.
- o The spatial relationships of all aspects of the "l" with respect to beginning letter, "V", the preceding "i", the following "m" and the baseline is the same in both the questioned and K1(25) signatures.
- The "m" in "Vilma" within the questioned signature is similar to the K1(25) signature in the following significant ways:
  - o The "m" is formed with a saw-toothed appearance with angular movements at the top and bottom.
  - o The centermost portion of the "m" is slightly closer to the first staff than it is to the final staff.
  - o The first hump of the "m" is slightly narrower than the second hump.
  - o The ending portion of the "m" begins with a sharp angle at the bottom of the final hump and it is disconnected from the terminal "a" in "Vilma".
  - o The ending stroke of the "m" touches the following letter "a" just above the lowermost portion of the "a".
  - o The spatial relationships of all aspects of the "m" with respect to the beginning letter, "V", the preceding letters "i" and "l", the following "a" and the baseline is the same in both the questioned and K1(25) signatures.
- The "a" in "Vilma" on the K1(25) document has been altered, as addressed above. Excluding the altered portion of the genuine signature, the "a" in "Vilma" within the questioned signature is similar to the "a" in "Vilma" in the K1(25) signature in the following significant ways:
  - o The "a" is disconnected from the preceding "m".
  - o The "a" begins at approximately the same height as the last hump of the preceding "m" and goes toward the baseline. 

- o The bottommost portion of the "a" ends slightly above the lowermost portion of the preceding letter "m".
- o At the bottom of the "a", it sharply changes direction in an upward movement.
- o At the uppermost portion of the right side of the "a", it changes in a direction and retraces the upstroke to a location just below the midpoint of the upward stroke when it again changes direction in a rounded curve upward to the right.
- o The "a" was originally written with an open top.
- o The last stroke of the "a" ends slightly above the uppermost portion of the central portion of the letter.
- o The spatial relationships of all aspects of the "a" with respect to the entirety of the first name and in relation to the middle name is the same in both the questioned and K1(25) signatures.
- The capital "M" of the middle name "Miz" of the questioned signature is similar to the "M" of the K1(25) signature in the following significant ways:
  - o The "M" begins with a short, upward introductory stroke that begins just above the midpoint of what becomes the first staff of the letter.
  - o At the uppermost portion of the first peak of the "M" it changes to a downward movement creating a narrow arch.
  - o The first staff of the "M" is slightly bowed to the right.
  - o The following two humps of the letter "M" are somewhat peaked and the second peak is more rounded while the first peak is more angular. The bottom center portion of the "M" is slightly above the bottom of the first staff.
  - o The bottommost right side of the final hump of the "M" changes direction near the baseline in a somewhat angular upward movement.
  - o The bottommost right side of the final hump of the "M" is slightly higher than the preceding bottom portions of the "M".
  - o The "M" is letter connected to the following letter "i". 

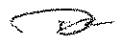
- o The spatial relationships of all aspects of the "M" with respect to the entirety of the first name and in relation to the remainder of the middle name is the same in both the questioned and K1(25c) signatures.
- The letter "i" in "Miz" of the genuine signature on the back of K1(25) has been altered, as addressed above. With the exception of the altered portion of the letter "i" of the genuine K1(25) check, the letter "i" of the middle name "Miz" of the questioned signature is similar to the "i" in the middle name of the K1(25) signature in the following significant ways:
  - o The "i" begins with a relatively long, connected upward stroke from the preceding "M" that places the "i" significantly higher than the "i" in the first name.
  - o The uppermost portion of the "i" in "Miz" is approximately 2/3 the height of the capital "M" and it is higher than the uppermost portion of the following "z".
  - o The "i-dot" of the "i" in "Miz" is slightly to the right of the staff of the letter, it is slightly higher than the preceding "M", and is somewhat pronounced in the shape of an arch that bows to the left.
  - o The right side of the "i" is shorter than the introductory stroke and this ending stroke does not reach the baseline.
  - o The "i" ends with a rounded, underhanded curve that changes to an overhand, rounded movement that connects to the final "z".
  - o The spatial relationships of all aspects of the "i" in "Miz" with respect to the entirety of the first name and in relation to the remainder of the middle name is the same in both the questioned and K1(25) signatures.
- The ending letter "z" of the middle name "Miz" of the questioned signature is similar to the "z" in the middle name of the K1(25) signature in the following significant ways:
  - o The "z" is letter connected to the preceding "i".
  - o The top portion of the "z" is a rounded arch that is formed in a clockwise movement. 


- o The centermost portion of the "z" has a sharp indentation that continues in another rounded, clockwise arch to form the initial portion of the lower body of the letter.
- o A relatively large clockwise loop is formed at the base of the letter that intersects the staff of the letter just below the indentation.
- o The "z" ends with a relatively long counterclockwise stroke that terminates just below and to the right of the uppermost portion of the letter.
- o The ending stroke of the "z" is somewhat emphatic in relation to the ending strokes of the "a" of "Vilma" and the ending "a" of the last name of the signature.
- o The spatial relationships of all aspects of the "z" in "Miz" with respect to the entirety of the first name and in relation to the remainder of the middle name, as well as the last name is the same in both the questioned and K1(25) signatures.
- The letter "S" of the last name "Serralta" of the genuine signature on the back of K1(25) has been altered, as addressed above. With the exception of the altered portion of the letter "S" of the genuine K1(25) check, the letter "S" of the last name of the questioned signature is similar to the "S" in the middle name of the K1(25) signature in the following significant ways:
  - o The space between the beginning stroke of the "S" and the ending stroke of the "z" is closer than the space between the beginning stroke of the "M" and the ending stroke of the "a" in "Vilma".
  - o The "S" begins with a relatively long, gradually curved upward stroke that abruptly changes at the top to a downward stroke that creates a long, narrow ellipse.
  - o The downward stroke of the "S" sharply changes direction at the baseline in a clockwise movement and the letter ends with a slight movement to the left and a pen lift.
  - o The final movement of the "S" ends about 1/3 the overall height of the letter.
  - o The bottommost portions of the "S" are below the baseline and below the remaining letters of the last name. 

- o The spatial relationships of all aspects of the "S" in "Serralta" with respect to the entirety of the first and middle names, as well as the following letters of the last name is the same in both the questioned and K1(25) signatures.
- The letter "e" is similar to the "e" of the last name of the K1(25) signature in the following significant ways:
  - o The beginning stroke of the "e" touches the right side of the "S", just above the baseline.
  - o The eyelet of the "e" is very narrow.
  - o The "e" is spaced closely to the preceding "S".
  - o The "e" is approximately  $\frac{1}{4}$  the overall height of the preceding "S".
  - o The "e" is slightly shorter than the ending stroke of the "S".
  - o The connecting stroke of the "e" is interrupted shortly after curving upward from the baseline. This interruption is a pen lift.
  - o The spatial relationships of all aspects of the "e" with respect to the entirety of the preceding first and middle names and in relation to the remainder of the last name is the same in both the questioned and K1(25) signatures.
- The introductory stroke of the first letter "r" of the last name "Serralta" of the genuine signature on the back of K1(25) has been altered, as addressed above. With the exception of the altered portion of the first letter "r" of the genuine K1(25) check, the letter "r" of the last name of the questioned signature is similar to the "r" in the middle name of the K1(25) signature in the following significant ways:
  - o This first "r" is spaced relatively far away from the preceding "e".
  - o The first "r" has a long, slopping introductory stroke that sharply changes direction in a counterclockwise direction to form a small eyelet at the top left side.
  - o After the eyelet is formed, the letter continues to the right with a short, slightly upward line segment that ends with a sharp downward backward movement toward the baseline. 

- o The first "r" ends slightly below the baseline with a somewhat sharp upward movement and it is letter connected to the second "r".
- o The spatial relationships of all aspects of the first "r" with respect to the entirety of the preceding first and middle names and in relation to the remainder of the last name is the same in both the questioned and K1(25) signatures.
- The second letter "r" is similar to the second letter "r" of the last name of the K1(25) signature in the following significant ways:
  - o It is letter connected to the preceding "r".
  - o It is spaced closer to the first "r" than the first "r" is spaced to the preceding "e".
  - o The upper left portion of the second "r" appears to have a "closed" eyelet, rather than an open eyelet.
  - o The uppermost portion of the left side of the second "r" is slightly higher than the highest portion of the preceding "r".
  - o After the upper left portion of the second "r" is formed, the letter continues with a short, slightly downward stroke that changes direction toward the baseline with a somewhat rounded curve.
  - o At the baseline, the second "r" changes to an upward movement to the right where it ends with a pen lift.
  - o The lowermost portion of the right side of the second "r" ends above the lowermost portion of the right side of the first "r".
  - o The spatial relationships of all aspects of the second "r" with respect to the entirety of the preceding first and middle names and in relation to the remainder of the last name is the same in both the questioned and K1(25) signatures.
- The first letter "a" of the last name "Serralta" of the genuine signature on the back of K1(25) has been altered, as addressed above. With the exception of the altered portion of the first letter "a" of the genuine K1(25) check, the letter first "a" of the last name of the questioned signature is similar to the first "a" in the middle name of the K1(25) signature in the following significant ways:



- o It is letter disconnected from the preceding "r".
- o It begins in the upper right side of the letter, at about a one o'clock position.
- o There was a slight gap between the beginning stroke of the "a" and the upper right side of the "a".
- o The upper right side of the "a" is slightly higher than the initial stroke.
- o The oval of the "a" is relatively long and narrow and it is pointed on the lower left side.
- o The spatial relationships of all aspects of the first "a" in "Serralta" with respect to the entirety of the preceding first and middle names and in relation to the preceding and following letters of the last name is the same in both the questioned and K1(25) signatures.
- The "l" in "Serralta" is similar to the "l" of the last name of the K1(25) signature in the following significant ways:
  - o The "l" is tall and thin and does not have an open eyelet.
  - o The "l" is approximately the same height as the "S".
  - o The "l" ends above the baseline with an sharp upward movement.
  - o The spatial relationships of all aspects of the "l" in "Serralta" with respect to the entirety of the preceding first and middle names and in relation to the preceding and following letters of the last name is the same in both the questioned and K1(25) signatures.
- The "t" in "Serralta" is similar to the "t" of the last name of the K1(25) signature in the following significant ways:
  - o The "t" is tall and thin and it is parallel to the preceding "l".
  - o It is slightly higher than the preceding "l".
  - o The slant of the "t" is slightly more right of vertical than the preceding "l".
  - o The crossing stroke of the "t" is about  $\frac{3}{4}$  up the staff of the letter. 

- o The crossing stroke of the "t" begins just slightly to the left of the staff.
- o The crossing stroke of the "t" is relatively long and has a slight downward bow.
- o As it goes off the right edge of the check, the crossing stroke of the "t" ends directly above the end of the final stroke of the following "a".
- o The "t" sharply changes direction at the bottom with a very short line segment that is disconnected from the following "a".
- o The bottom of the "t" is slightly lower than the bottom of the preceding "l".
- o The spatial relationships of all aspects of the "t" in "Serralta" with respect to the entirety of the preceding first and middle names and in relation to the preceding and following letters of the last name is the same in both the questioned and K1(25) signatures.
- The terminal "a" of the last name "Serralta" of the genuine signature on the back of K1(25) has been altered, as addressed above. With the exception of the altered portion of the terminal letter "a" of the genuine K1(25) check, the terminal letter "a" of the last name of the questioned signature is similar to the terminal "a" in the middle name of the K1(25) signature in the following significant ways:
  - o The terminal "a" is disconnected from the preceding "t".
  - o This "a" begins about twelve o'clock with a downward movement to the left.
  - o The terminal "a" is long and narrow.
  - o The bottom left of the "a" is angular and it is spaced close to the bottom of the preceding "t".
  - o The "a" is open at the top.
  - o The right side of the top of the "a" is slightly lower than the beginning of the "a".
  - o From the uppermost right side of the "a", it continues with a downward movement back toward the left and, about mid-way down the staff, the letter changes direction to the right with a shallow curved stroke that ends above the baseline. 

- o The terminal stroke of the "a" is relatively long and ends as it actually goes off the right edge of the check.
- o The spatial relationships of all aspects of the terminal "a" in "Serralta" with respect to the entirety of the preceding first and middle names and in relation to the preceding letters of the last name is the same in both the questioned and K1(25) signatures.
- The entire questioned signature appears to be written with a skill level commensurate with the K1(25) signature.
- The entire questioned signature was written with the same overall slant as the overall slant of the K1(25) signature.
- The internal slants of the various letters within the questioned signature appears to be written with same internal slants of the various letters of the K1(25) signature.
- The only appreciable differences between the questioned signature and the K1(25) signature is the absolute sizes of the letter "V" or first name and the remainder of first name with the middle and last names of the questioned signature and the sizes of the corresponding letter and names of the K1(25) signature.

The above individualized, comparable features and characteristics were found within both the questioned and the known K1(25) signatures of Serralta. Their presence supports the belief that a copy of the K1(25) signature was "cut" and manipulated to ultimately create the questioned Serralta signature depicted on Q1c.

As stated above, the questioned signature depicted on Q1c was **not written** on the original of the Q1c document by Ms. Serralta. Correspondingly, the Serralta signature depicted on Q1c was transferred onto the Q1c document in a "**cut and paste**" operation during which the genuine Serralta signature on the back of K1(25) was copied and manipulated.

With the exceptions of the alterations that have been made to the genuine K1(25) endorsement signature, no significant difference was observed between the Q1c questioned signature and the K1(25) known signature.

Finally, the questioned Q1c document was purported signed by Harleen Chopra on 8-29-02; however, since the source of the questioned Serralta signature depicted on Q1c was the genuine Serralta endorsement signature on the back of the check no.



212, i.e. K1(25), which was issued on 1-14-05 and which depicts bank cancellation markings on the back of 1-21-05, the Q1c document could not have been created until after mid-January, 2005.

#### REMARKS

**Exhibits "A" through "G"** are attached to the basic report, dated 4-15-09.

Attached as **Exhibit "H-1"** to this supplemental report is a copy of the Q1c document which was received from opposing counsel, Mr. Jonathan D. Hicks, on 4-30-09.

Attached as **Exhibit "H-2"** is a copy of four video prints that depict enlargements of various portions of the Q1c copy provided by opposing counsel. These enlargements portray the relatively poor quality of the machine printed information and handwriting recorded on this copy.

Attached as **Exhibit "H-3"** is a copy of the back of the Q1c document depicting the rubber stamp "Exhibit 3".

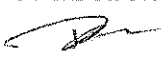
Attached as **Exhibit "I-1"** is a redacted copy of the face and back of K1(25), i.e. Digital Age Management LLC check no. 212.

Attached as **Exhibit "I-2"** is an enlarged copy of the redacted endorsement signature on the back of K1(25) that has been color coded to reflect the alterations that have occurred to the signature and to memorialize the existence of different inks. (Attached as **Exhibit "E-3"** to the basic report is an unredacted copy (at the top) of the back of the check no. 212 (i.e. K1(25c)) which depicts the same unredacted, unaltered genuine Serralta signature.)

Attached as **Exhibit "I-3"** and **"I-4"** are copies of six (6) video prints that depict the various portions of the genuine K1(25) endorsement signature that were altered.

Attached as **Exhibit "J-1"** (at the bottom) is a redacted copy of the back of the original of K1(10), i.e. check no. 4204, which depicts an unaltered genuine Serralta signature.

Attached as **Exhibit "J-2"** is a copy (at the bottom) of the unredacted copy of the back of K1(10) that depicts the unaltered, genuine Serralta signature.

Attached as **Exhibit "J-3"** is an enlarged copy of the redacted endorsement signature on the back of K1(10) that has been color coded to reflect the alterations that have occurred to the signature with an ink that was different than the ink used to write the original signature. 

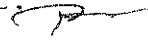
Attached as **Exhibit "J-4"** are copies of two (2) video prints that depict the various portions of the genuine K1(10) endorsement signature that were altered.

Attached as **Exhibit "K"** is a copy of a "cut and paste" chart that depicts the relationships between the Q1c questioned Serralta signature and the different versions of the genuine source signature copied from K1(25), which was subsequently altered. From top to bottom are the enlarged copies of the following documents:

- The top signature is a copy of the Q1c signature.
- The 2<sup>nd</sup> signature from the top is an unredacted copy of the genuine signature. (The copy of this signature was made during discovery production during mid-February, 2009.)
- The 3<sup>rd</sup> signature from the top is a copy of the genuine signature on the back of a copy of K1(25c). (This signature was depicted on the back of check no. 4204 that was made during discovery production and the redaction was done on the copy, rather than on the original check.)
- The bottom signature is an enlarged copy that was copied directly from the original of K1(25). (The redaction to this original check was made at some time after production in mid-February, 2009 and prior to receipt of the check in my laboratory on 4-30-09.)

The findings expressed above, i.e. that Serralta **"did not sign"** the original of the Q1c document and that the questioned Serralta signature depicted on Q1c **"is the product of a 'cut and paste' operation"** of the genuine Serralta signature copied from K1(25) are two of nine distinct probability statements that are used to express different degrees of certainty. These terms are defined in the American Society of Testing and Materials (ASTM) International Standard, E 1658 (*Standard Terminology for Expressing Conclusions of Forensic Document Examiners*). The undersigned ascribes to the definitions contained in this published standard. Attached as **Exhibit "G"** to the basic report was a copy of Standard E 1658.

In light of the alterations that have occurred to the K1(10) and K1(25) endorsements signatures, it is my recommendation that the evidence that I presently have in my possession be secured in such a fashion to insure both the integrity of these documents and their production at trial.

If testimony is anticipated, please provide as much notice as possible to insure that other matters do not conflict. 

DISPOSITION OF MATERIAL EXAMINED

All evidence will be temporarily retained within the files of this office pending disposition instructions.

A handwritten signature in black ink, appearing to read 'D.S. Moore', with a long horizontal flourish extending to the right.

DAVID S. MOORE  
Forensic Document Examiner

Encl: as

Q1c *Vilma Miz Herratta*

8-19-02

ENDORSE CHECK HERE

K1(25)

X *Vilma Miz Herratta*  
*388395885-0*

1-14-05

ENDORSE CHECK HERE

K1(25)

X *Vilma Miz Herratta*  


1-14-05

ENDORSE CHECK HERE

K1(25)

X *Vilma Miz Herratta*  


1-14-05

EXHIBIT K